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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
REGO, DOMINIC E

ART UNIT	PAPER NUMBER
2684	

DATE MAILED: 12/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/612,373	LINDOFF ET AL.
	Examiner	Art Unit	
	Dominic E. Rego	2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>02 July 2003</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-38* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8, 14-25 and 31-37* is/are rejected.

7)☐ Claim(s) *9-13, 26-30 and 38* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date *7/2/03, 1/26/04*.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Allowable Subject Matter

Claims 9-13, 26-30 and 38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 9, the prior art fails to teach the method, wherein:

the identifying an out-of-sync condition comprises first filtering the SIRs, and at least substantially reducing the transmission power from the wireless transceiver when first filtered SIRs fall below an out-of-sync threshold; and the restricting change of the transmission power comprises second filtering the SIRs, and restricting change of the transmission power from the wireless transceiver when the second filtered SIRs fall below a power limit threshold as cited in the claim.

Regarding claim 26, the prior art fails to teach the wireless transceiver, further comprising: an out-of-sync filter that is configured to filter the SIRs, and the out-of-sync detector is further configured to at least substantially reduce the transmission power level of the transmitter when the filtered SIRs from the out-of-sync filter fall below an out-of-sync threshold; and a transmission limit filter that is configured to filter the SIRs, and the power limit detector is configured to restrict a change of the transmission power level of the transmitter when the filtered SIRs from the out-of-sync filter fall below a

power limit threshold as cited in the claim.

Regarding claim 38, the prior art fails to teach the computer program product, wherein: the program code for identifying an out-of-sync condition comprises program code for first filtering the SIRs, and at least substantially reducing the transmission power from the wireless transceiver when first filtered SIRs fall below an out-of-sync threshold; and the program code for restricting change of the transmission power comprises program code for second filtering the SIRs, and restricting change of the transmission power from the wireless transceiver when the second filtered SIRs fall below a power limit threshold as cited in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8,18-25, and 35-37 are rejected under 35 U.S.C. 102(b) as being anticipated by Toskala et al. *(US Patent #6,456,826).*

Regarding claim 1, Toskala teaches a method for controlling transmission power from a wireless transceiver, the method comprising:

estimating signal to interference ratios (SIRs) for a signal received from another

wireless device; identifying an out-of-sync condition between the wireless transceiver

and the other wireless device based on the SIRs *(Column 1, line 42-Column 2, line 11)*;

restricting change of the transmission power from the wireless transceiver based on the

SIRs and when an out-of-sync condition has not been identified *(Column 6, line 57-*

Column 7, line 9).

Regarding claim 2, Toskala teaches the method, wherein the restricting change

of the transmission power is based on the SIRs *(Sensed signal)* changing more than a

predetermined threshold *(exceed threshold)* over a predetermined time *(Column 2, line*

22-51).

Regarding claim 3, Toskala teaches the method, wherein: the identifying an out-

of-sync condition comprises comparing the SIRs *(Sensed signal)* to an out-of-sync

threshold *(Column 2, line 22-51)*; and the restricting change of the transmission power

comprises comparing the SIRs *(count signal)* to a transmission limit threshold *(count*

threshold) (Column 2,line 40-51,Column 6, line 57-Column 7, line 9).

Regarding claim 4, Toskala teaches the method, wherein the out-of-sync

threshold *(second threshold)* is greater than the transmission limit threshold *(first*

threshold) (Column 10, line 14-19).

Regarding claim 5, Toskala teaches the method, wherein the out-of-sync threshold is less than the transmission limit threshold (*Column 10, line 14-19 and it is obvious if the out-of-sync threshold is greater than the transmission limit threshold, it can be less than the transmission limit threshold*).

Regarding claim 6, Toskala teaches the method, wherein at least one of the out-of-sync threshold and the transmission limit threshold is based on slot format *(time slot) (Column 5, line 10-20)*.

Regarding claim 7, Toskala teaches the method, wherein at least one of the out-of-sync threshold and the transmission limit threshold is based on whether the wireless transceiver is in soft handover *(It is inherent to all communication system to have a mobile connection with in soft or hard handover)*.

Regarding claim 8, Toskala teaches the method, wherein at least one of the out-of-sync threshold and the transmission limit threshold is based on whether the wireless transceiver is in a compressed mode *(TDD mode) (Column 5, line 10-20)*.

Regarding claim 18, Toskala teaches a wireless transceiver comprising: an SIR estimator that is configured to estimate SIRs for a signal received from another wireless device; an out-of-sync detector that is configured to identify an out-of-sync condition

between the wireless transceiver and the other wireless device based on the SIRs

(Column 1, line 42-Column 2, line 11);

a transmitter that is configured to transmit at an adjustable transmission power

level *(Column 2, line 12-21)*; and

a power limit detector that is configured to restrict a change of the transmission

power level of the transmitter based on the SIRs and when an out-of-sync condition has

not been identified *(Column 6, line 57-Column 7, line 9)*.

Regarding claim 19, Toskala teaches the wireless transceiver, wherein the power

limit detector is further configured to restrict a change of the transmission power level by

the transmitter based on the SIRs *(Sensed signal)* changing more than a predetermined

threshold *(exceed threshold)* over a predetermined time *(Column 2, line 22-51)*.

Regarding claim 20, Toskala teaches the wireless transceiver, wherein: the out-

of-sync detector is further configured to compare the SIRs *(Sensed signal)* to an out-of-

sync threshold *(Column 2, line 22-51)*; and the power limit detector is further configured

to compare the SIRs *(count signal)* to a transmission limit threshold *(count threshold)*

(Column 2,line 40-51,Column 6, line 57-Column 7, line 9).

Regarding claim 21, Toskala teaches the wireless transceiver, wherein the out-

of-sync threshold *(second threshold)* is greater than the transmission limit threshold

(first threshold) (Column 10, line 14-19).

Regarding claim 22, Toskala teaches the wireless transceiver, wherein the out-of-sync threshold is less than the transmission limit threshold (*Column 10, line 14-19 and it is obvious if the out-of-sync threshold is greater than the transmission limit threshold, it can be less than the transmission limit threshold*).

Regarding claim 23, Toskala teaches the wireless transceiver, wherein at least one of the out-of-sync threshold and the transmission limit threshold is based on slot format *(time slot)(Column 5, line 10-20)*.

Regarding claim 24, Toskala teaches the wireless transceiver, wherein at least one of the out-of-sync threshold and the transmission limit threshold is based on whether the wireless transceiver is in soft handover *(It is inherent to all communication system to have a mobile connection with in soft or hard handover)*.

Regarding claim 25, Toskala teaches the wireless transceiver, wherein at least one of the out-of-sync threshold and the transmission limit threshold is based on whether the wireless transceiver is in a compressed mode *(TDD mode) (Column 5, line 10-20)*.

Regarding claim 35, Toskala teaches a computer program product for controlling

transmission power from a wireless transceiver, the computer program code

comprising:

program code for estimating signal to interference ratios (SIRs) for a signal

received from another wireless device; program code for identifying an out-of-sync

condition between the wireless transceiver and the other wireless device based on the

SIRs *(Column 1, line 42-Column 2, line 11)*; and

program code for restricting change of the transmission power from the wireless

transceiver based on the SIRs and when an out-of-sync condition has not been

identified *(Column 6, line 57-Column 7, line 9)*.

Regarding claim 36, Toskala teaches the computer program product according to

claim 35, further comprising program code for restricting change of the transmission

power based on when the SIRs *(Sensed signal)* change more than a predetermined

threshold *(exceed threshold)* over a predetermined time *(Column 2, line 22-51)*.

Regarding claim 37, Toskala teaches the computer program product, wherein:

the program code for identifying an out-of-sync condition comprises program code for

comparing the SIRs *(Sensed signal)* to an out-of-sync threshold *(Column 2, line 22-51)*;

and the program code for restricting change of the transmission power comprises

program code for comparing the SIRs *(count signal)* to a transmission limit threshold

(count threshold) (Column 2,line 40-51,Column 6, line 57-Column 7, line 9).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 14 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Toskala et al. *(US Patent 6,456,826)* in view of Lundby *(WO 02/41523).*

Regarding claim 14, Toskala teaches the method, further comprising: restricting

change of the transmission power from the wireless transceiver when the SIRs fall

below an offset threshold relative to the out-of-sync threshold *(Column 1, line 43-58)*;

except for reducing the transmission power from the wireless transceiver to about zero

when the SIRs fall below an out-of-sync threshold.

However, in related art, Lundby teaches reducing the transmission power from

the wireless transceiver to about zero when the SIRs fall below an out-of-sync threshold

(Page 4, line 23-25: Lundby teaches at the points 206 where the C/I value drops to a

value less than the C/I threshold, then the access terminal stops transmitting a reverse

link signal).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time of the invention was made to use the teaching of reducing the transmission power

from the wireless transceiver to about zero when the SIRs fall below an out-of-sync

threshold, as taught by Lundby, in the Toskala's device in order to save the power of the

device.

Regarding claim 31, Toskala teaches the wireless transceiver, wherein: the

power limit detector is configured to restrict a change of the transmission power level of

the transmitter when the SIRs fall below a power limit threshold *(Column 1, line 43-58)*,

except for the out-of-sync detector is further configured to at least substantially reduce

the transmission power level of the transmitter when the SIRs fall below an offset

threshold relative to an out-of-sync threshold.

However, in related art, Lundby teaches the out-of-sync detector is further

configured to at least substantially reduce the transmission power level of the

transmitter when the SIRs fall below an offset threshold relative to an out-of-sync

threshold *(Page 4, line 23-25: Lundby teaches at the points 206 where the C/I value*

drops to a value less than the C/I threshold, then the access terminal stops transmitting

a reverse link signal).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time of the invention was made to use the teaching of the out-of-sync detector is further

configured to at least substantially reduce the transmission power level of the

transmitter when the SIRs fall below an offset threshold relative to an out-of-sync

threshold, as taught by Lundby, in the Toskala's device in order to save the power of the

device.

Claims 15 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Toskala et al. *(US Patent 6,456,826)* in view of Iochi *(US Patent Application*

publication #20020196879).

Regarding claim 15, Toskala teaches all the claimed elements in claim 1, except

for the method, further comprising removing at least a portion of bias from the SIRs.

However, in related art, Iochi teaches the method, further comprising removing at

least a portion of bias from the SIRs *(See Claim 8)*.

Therefore, it would have been obvious to one of ordinary skill in the art at the

time of the invention was made to use the teaching of the method, further comprising

removing at least a portion of bias from the SIRs, as taught by Iochi, in the Toskala's

device in order to have a better signal in communication system.

Regarding claim 32, Toskala teaches all the claimed elements in claim 18,

except for the wireless transceiver, further comprising a bias removal module that is

configured to remove at least a portion of bias from the SIRs.

However, in related art, Iochi teaches the wireless transceiver, further comprising

a bias removal module that is configured to remove at least a portion of bias from the

SIRs *(See Claim 8)*.

Therefore, it would have been obvious to one of ordinary skill in the art at the

time of the invention was made to use the teaching of the wireless transceiver, further

comprising a bias removal module that is configured to remove at least a portion of bias

from the SIRs, as taught by Iochi, in the Toskala's device in order to have a better signal

in communication system.

Claims 16,17,33 and 34 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Toskala et al. *(US Patent 6,456,826)* in view of Iochi *(US Patent*

Application publication #20020196879) and further in view of Arnott *(GB 2,373,135 A).*

Regarding claim 16, the combination of Toskala and Iochi teaches the removing

at least a portion of bias from the SIRs is based on the number of RAKE fingers *(See*

Iochi, Claim 8) except for the method, the wireless transceiver including a RAKE

receiver having a plurality of RAKE fingers, and wherein: the estimating signal to

interference ratios (SIRs) for a received signal is based on a number of the RAKE

fingers of the RAKE receiver used to receive the signal.

However, in related art, Arnott teaches the method, the wireless transceiver

including a RAKE receiver having a plurality of RAKE fingers, and wherein: the

estimating signal to interference ratios (SIRs) for a received signal is based on a

number of the RAKE fingers of the RAKE receiver used to receive the signal *(Page 6,*

line 14-21: Aronott teaches in a related, third method aspect, the present invention

provides a method of estimating the total Signal to interference Ratio (SIR) in a receiver

which receiver has a plurality of fingers and is arranged to combine signals from a

plurality of antenna elements, each finger having interference characteristics from which

an SIR for each finger is determined, the method comprising: estimating the total SIR

for the receiver from the total Received signal Strength Indicator (RSSI) for the receiver

and the total Interference Signal Strength Indicator (ISSI) for the receiver and not from

summing individual SIRs for each finger).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time of the invention was made to use the teaching of the method, the wireless

transceiver including a RAKE receiver having a plurality of RAKE fingers, and wherein:

the estimating signal to interference ratios (SIRs) for a received signal is based on a

number of the RAKE fingers of the RAKE receiver used to receive the signal, as taught

by Arnott, in the combination of Toskala and Iochi device in order to reduce the noise in

the signal.

Regarding claim 17, the combination of Toskala, Iochi and Arnott teaches all the

claimed elements in claim 15. In addition, Iochi teaches the method, the wireless

transceiver including a RAKE receiver, and wherein: the estimating signal to

interference ratios (SIRs) for a received pilot signal is based on a number of dedicated

pilot channel symbols in the received pilot signal *(See Arnott, Abstract)*; and the

removing at least a portion of bias from the SIRs is based on the number of dedicated

pilot channel symbols *(See Iochi, Claim 8)*.

Regarding claim 33, the combination of Toskala and Iochi teaches wherein the bias removal module is further configured to remove at least a portion of bias from the SIRs based on the number of RAKE fingers (*See Iochi, Claim 8*), except for the wireless transceiver, further comprising a RAKE receiver having a plurality of RAKE fingers, and wherein the SIR estimator is further configured to estimate SIRs for a received signal based on a number of the RAKE fingers used to receive the signal, and wherein the bias removal module is further configured to remove at least a portion of bias from the SIRs based on the number of RAKE fingers.

However, in related art, Arnott teaches the wireless transceiver, further comprising a RAKE receiver having a plurality of RAKE fingers, and wherein the SIR estimator is further configured to estimate SIRs for a received signal based on a number of the RAKE fingers used to receive the signal, and wherein the bias removal module is further configured to remove at least a portion of bias from the SIRs based on the number of RAKE fingers *(Page 6, line 14-21: Aronott teaches in a related, third method aspect, the present invention provides a method of estimating the total Signal to interference Ratio (SIR) in a receiver which receiver has a plurality of fingers and is arranged to combine signals from a plurality of antenna elements, each finger having interference characteristics from which an SIR for each finger is determined, the method comprising: estimating the total SIR for the receiver from the total Received signal Strength Indicator (RSSI) for the receiver and the total Interference Signal Strength Indicator (ISSI) for the receiver and not from summing individual SIRs for each finger).*

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the teaching of the wireless transceiver, further comprising a RAKE receiver having a plurality of RAKE fingers, and wherein the SIR estimator is further configured to estimate SIRs for a received signal based on a number of the RAKE fingers used to receive the signal, and wherein the bias removal module is further configured to remove at least a portion of bias from the SIRs based on the number of RAKE fingers, as taught by Arnott, in the combination of Toskala and Iochi device in order to reduce the noise in the signal.

Regarding claim 34, the combination of Toskala, Iochi and Arnott teaches all the claimed elements in claim 32. In addition, Iochi teaches the wireless transceiver, further comprising a RAKE receiver, and wherein the SIR estimator is further configured to estimate SIRs for a received signal based on a number of dedicated pilot channel symbols in the received pilot signal *(See Arnott, Abstract)*, and wherein the bias removal module is further configured to remove at least a portion of bias from the SIRs based on the number of dedicated pilot channel symbols *(See Iochi, Claim 8)*.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Vembu *(US Patent #6,185,432)* teaches system and method for selecting power condition modes.

Muller et al. *(US Patent Application Publication # 20040038698)* teaches method and system of transmission power control.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dominic E. Rego whose telephone number is 571-272-8132. The examiner can normally be reached on Monday-Friday, 8:30 am-5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 571-272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dominic E. Rego

EDAN ORGAD
PATENT EXAMINER/TELECOMM.